Claims

1. A magnetic recording medium, comprising:

a substrate,

a niobium-containing seedlayer having a thickness from about 1Å to about 40Å; and

a magnetic layer.

2. The magnetic recording medium of claim 1, wherein the seedlayer comprises a thickness selected from the group consisting of a thickness from about 1Å to about 35Å, a thickness from about 1Å to about 30Å, and a thickness from about 1Å to about 20Å.

3. The magnetic recording medium of claim 1, wherein the niobium-containing seedlayer comprises a material selected from the group consisting of a material containing at least 80 atomic percent niobium, a material containing at least 50 atomic percent niobium, and a material containing at least 20 atomic percent niobium.

4. The magnetic recording medium of claim 3, wherein the niobium-containing seedlayer comprises at least 5 atomic percent nitrogen.

5. The magnetic recording medium of claim 1, wherein the niobium-containing seedlayer further comprises a metal selected from the group consisting of boron, titanium, vanadium, chromium, zirconium, molybdenum, ruthenium, tantalum, and mixtures thereof.

6. The magnetic recording medium of claim 5, wherein the niobium containing seedlayer contains a niobium:metal ratio from about 1:2 to about 20:1.

7. The magnetic recording medium of claim 1, wherein the niobium containing seedlayer is a niobium-nitride based material, NbN_m, wherein m is a number selected from the group consisting of from about 0.05 to about 2, and from about 0.05 to about 1.

8. The magnetic recording medium of claim 1, wherein the magnetic layer produces reflections corresponding to an enhanced lamellar texture of (002) and $(11\bar{2}0)$ in a x-ray spectrum.

9. The magnetic recording medium of claim 1, wherein the niobium-containing seedlayer is deposited in an environment comprising a gas, the gas being selected from the group consisting of nitrogen, argon, and mixtures thereof.

10. The magnetic recording medium of claim 1, wherein the magnetic recording medium has a remanent coercivity value selected from the group consisting of from about 3200 Oe to about 6000 Oe, from about 3600 Oe to about 5400 Oe, and from about 3800 Oe to about 5000 Oe.

11. The magnetic recording medium of claim 1, wherein the magnetic recording medium wherein the seedlayer produces a maximum remanent coercivity of the magnetic recording medium at a seedlayer thickness of 60 Å or less.

12. A method of making a magnetic recording medium comprising:

depositing a niobium-containing seedlayer on a substrate, wherein the seedlayer has a thickness from about 1Å to about 40Å; and

depositing a magnetic layer.

13. The method of claim 12, wherein the seedlayer comprises a thickness selected from the group consisting of a thickness from about 1Å to about 35Å, a thickness from about 1Å to about 30Å, and a thickness from about 1Å to about 20Å.

14. The method of claim 12, wherein the niobium-containing seedlayer comprises a material selected from the group consisting of a material containing at

least 80 atomic percent niobium, a material containing at least 50 atomic percent niobium, and a material containing at least 20 atomic percent niobium.

15. The method of claim 12, wherein the niobium containing seedlayer is a niobium-nitride based material, NbN_m, wherein m is a number selected from the group consisting of from about 0.05 to about 2, from about 0.05 to about 1.

16. The method of claim 12, wherein the niobium-containing seedlayer further comprises a metal selected from the group consisting of boron, titanium, vanadium, chromium, zirconium, molybdenum, ruthenium, tantalum, and mixtures thereof.

17. The method of claim 16, wherein the niobium containing seedlayer contains a niobium:metal ratio from about 1:2 to about 20:1.

18. The method of claim 12, wherein the niobium-containing seedlayer is deposited in an environment comprising a gas, the gas selected from the group consisting of nitrogen, argon, and mixtures thereof.

19. The method of claim 18, wherein the deposition environment contains from 15% to 60% by volume nitrogen.

20. A magnetic recording medium comprising:

a substrate; and

means for maximizing the remanent coercivity of the recording medium by providing a niobium-containing seedlayer.